CLAIMS:

1.   Method for recursively estimating local vectors from at least one picture taken from an image sequence, comprising the steps of

- generating a first set of candidate vectors under at least partial use of recursion,

- selecting candidate vectors from the first set of candidate vectors according to a first criterion to form a smaller second set of candidate vectors,

- evaluating the candidate vectors of the second set of candidate vectors for a group of pixels based on a second criterion,

- determining the best vectors from the second set of candidate vectors according to said second criterion and

- assigning said determined best vectors to a group of pixels that is related to the group of pixels the candidate vectors of the second set of candidate vectors were evaluated for.

2.   Method according to claim 1, characterized in that the candidate vectors in said first set of candidate vectors are spatially and/or temporally predicted based on already determined estimated local vectors and/or the zero vector and/or update vectors, which are either random vectors or belong to a limited fixed set of update vectors.

3.   Method according to claim 1 or 2, characterized in that the local vectors are motion vectors that describe the motion of groups of pixels in pictures of an image sequence.

4.   Method according to claim 3, characterized in that at least one of said motion vectors is predicted according to a parametric 2D global motion model.

5.   Method according to claim 1 or 2, characterized in that the local vectors represent sets of parameters that describe the motion model of a group of pixels in pictures of an image sequence.

6.   Method according to claim 1 or 2, characterized in that the local vectors represent spatial features of a group of pixels, in particular texture, dynamic range, color or average value.

5   7.   Method according to claim 1-6, characterized in that the second criterion is a match error criterion such as the Sum of Absolute Differences (SAD) criterion, or a mean square error criterion.

8.   Method according to claim 1-7, characterized in that the selection of candidate
10   vectors from the first set of candidate vectors to form a smaller second set of candidate vectors is based on a ranking of the corresponding vector components of the candidate vectors in the first set of candidate vectors.

9.   Method according to claim 1-7, characterized in that the selection of candidate
15   vectors from the first set of candidate vectors to form a smaller second set of candidate vectors is based on a ranking of the candidate vectors in the first set of candidate vectors.

10.   Method according to claim 1-9, characterized in that the second set of candidate vectors contains at least one extreme and/or one least extreme candidate vector of
20   the first set of candidate vectors according to the first criterion.

11.   Method according to claim 10, characterized in that the extreme candidate vectors are the two vectors with the largest distance to the average vector of a number of candidate vectors of the first set of candidate vectors or with the largest distance to a spatial
25   prediction vector in the first set of candidate vectors, or the longest and the shortest vector, or the largest distance to the rest of the candidate vectors of the first set of candidate vectors.

12.   Method according to claim 10, characterized in that the least extreme candidate vector is the vector with the smallest distance to the average vector of a number of
30   candidate vectors of the first set of candidate vectors or with the smallest distance to a spatial prediction vector in the first set of candidate vectors, or the vector median.

13.   Device for recursively estimating local vectors from at least one picture taken from an image sequence, consisting of:

- means to generate a first set of candidate vectors under at least partial use of recursion,

- means to select candidate vectors from the first set of candidate vectors according to a first criterion to form a smaller second set of candidate vectors,

- means to evaluate the candidate vectors of the second set of candidate vectors for a group of pixels based on a second criterion,

- means to determine the best vectors from the second set of candidate vectors according to said second criterion and

- means to assign said determined best vectors to a group of pixels that is related to the group of pixels the candidate vectors of the second set of candidate vectors were evaluated for.

14.   A computer program product directly loadable into the internal memory of a digital computer, comprising software code portions for performing the steps of claim 1 when said product is run on a computer.